Evaluation and Revision of a Postpartum Depression Screening Program
in a Military Pediatric Outpatient Setting
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Abstract

Summary

The role of the pediatric provider is widening to include maternal screening for postpartum depression (PPD). A quality improvement project was performed to examine a military pediatric clinic’s current PPD screening practice to determine provider compliance and recommend a performance-improvement plan. The project also sought to answer the proposed inquiry question: “Does postpartum depression education and an established referral protocol increase screening compliance rates in the military pediatric primary care setting?”

Procedure

There were three phases in this project. The first phase involved a review of the current PPD screening procedure at the clinic. The current procedure called for administrating the Edinburgh Postnatal Depression Scale to all mothers during their infants’ 2-week well-baby visits. The second phase included a chart audit on infant’s 2 week well child visits from August 3-14 and November 5-16, 2015. A provider questionnaire regarding attitudes and beliefs on PPD screening and minimal demographic information was emailed via SurveyMonkey in September. The clinic’s staff received a brief educational presentation on PPD and screening in the pediatric setting in October 2015. The second chart audit collection period started one week following the last presentation. The final phase of the project consisted of policy sustainability, data dissemination and publication.

Results
Of the 42 charts reviewed in the first audit, 93% had completed PPD screenings. There were four charts (10%) with a positive screening score of 10 or greater, and one received a mental health referral that day. The second chart audit included 33 charts with 94% indicated completed PPD screenings. Positive screenings were indicated in two charts (6%) and one chart had documented referrals to a mental health provider.

Responses to the provider questionnaire were overall positive. A majority of the providers (83%) agreed that PPD is important in this setting, all responded that they are comfortable with referral as needed, yet none felt comfortable with treatment of the mother for PPD.

Discussion

Overall, collection rates for the clinic were very high and PPD rates were similar to expected national averages. The results support the feasibility of PPD screening in the pediatric setting but did not support the proposed question. In this setting, the education did not increase the screening rates. Although, the pre-educational rate was already very high.
Background

According to Beck (1991), the phenomenon of Postpartum Depression (PPD) is a non-psychotic episode of depression that starts in pregnancy or extends into the postpartum period. Statistically, PPD prevalence rates are 10-20%, with only about half being formally diagnosed (Sriraman, 2012). Prevalence rates double in the military population due to a multi-causative effect of unique military events that commonly occur within this population (Rychnovsky & Beck, 2006). Some of the negative effects PPD can have on the mother include, interference on the mother’s cognitive processing, information interpretation, affective expression, and her ability to interact positively with her infant. These effects can in turn cause the infant and the family to suffer as well (Wood, Middleton & Leonard, 2004). Early detection is key to decreasing the negative effects on mother, baby, and family (Wood, Middleton & Leonard, 2004). Evidence has shown that a delay in PPD detection and therapeutic intervention leads to reports of more severe and sustained depressive symptoms (Wood, Middleton & Leonard, 2004).

It is recommended that obstetric providers follow-up with the mother one to two times in the first two months postpartum, and may not see her again unless she has another pregnancy (WHO, 2013; ACOG, 2016). Furthermore, mothers take their infants to see a pediatric provider more frequently, approximately every two months in the first year of life (AAP, 2014). Therefore, the pediatric setting is likely the most opportunistic location to screen for PPD (Sriraman, 2012). Despite recommendations in 2009 by the National Research Council (NRC) and the Institute of Medicine (IOM) encouraging heightened perinatal depression screening and intervention by both obstetric (OB) and pediatric providers, there remains a gap between these recommendations and the actions taken by providers caring for these vulnerable women.
The use of a validated screening tool, such as the Edinburgh Postnatal Depression Scale (EPDS, Cox, 1987) in an outpatient pediatric setting can increase the identification of women who either have PPD or are at high risk of developing PPD. The most commonly used screening tool for PPD is the EPDS (Boyd, Le & Somberg, 2005). It was developed specifically for the postpartum mother and purposefully refrains from identifying symptoms characteristic of all women after having a baby, such as fatigue, loss of appetite and sleep disturbances (Rychnovsky & Brady, 2008). Only after identification can early intervention decrease the negative effects of PPD on mothers and their children.

Military mothers are at an even higher risk of PPD due to frequent moves, leaving the mothers with feelings of isolation from their support system: family, friends, and possibly their spouses if deployed (Rychnovsky & Beck, 2006). These mothers would benefit from their entire healthcare team proactively monitoring them for PPD given that they are potentially at twice the risk as their civilian counterparts. Rychnovsky and Beck (2006) have recommended that pediatric nurses, OB nurses, and primary care providers should employ regular depression screening from pregnancy through the postpartum period.

**Pediatric Military Project Setting**

At the proposed project site, the leadership and providers agree that an identified practice problem involves postpartum depression screening. Currently, PPD screening is not routinely performed at well-baby appointments by providers in the military pediatric outpatient setting. Screening for PPD is often not performed despite there being a recently disseminated postpartum depression screening policy that calls for providers to screen every mother who brings in her infant from two weeks to six months. Any positive screening is to be referred to a Family Health or Mental Health practitioner on the day of the visit or within 48 hours, according to severity.
Although, the healthcare providers in this setting may have more contact with these mothers than any other provider during the postpartum period, reports from the providers in the project site’s pediatric clinic indicate that the new policy for PPD screening has limitations that are affecting maximum potential.

The purpose of the project is to evaluate an existing, yet newly implemented, PPD screening policy in a military pediatric outpatient setting. This evaluative process will assess provider screening compliance rates, the effectiveness of the policy implementation, verify foundations of evidence-based practice and identify collaboratively with stakeholders changes to improve screening and referral process. The anticipated outcome of the project is that all military postpartum women will be screened for PPD at the infant’s pediatric appointments. It is expected that the project will identify barriers and facilitators to screening and referral. The policy evaluation may lead to a successful translation of frequent EPDS screening into the study site, which could eventually disseminate into the larger military healthcare system.

**Theoretical Framework**

The Cognitive-Vulnerability-Transactional (CVT) Stress Theory of Depression describes the concepts that make military postpartum women at increased risk for PPD (Gibson, McKenzie-McHarg, Shakespeare, Price & Gray, 2009). The theory by Hankin and Abramson (2001) contends that depression may result from the influences of innate vulnerabilities such as gender, personality, and environmental adversities in combination with a negative precipitating event. They further characterize the vulnerabilities and negative events as either outside one’s control (independent) or within one’s control (dependent). For these mothers, the vulnerabilities include the independent factors of being female and a birth of her child. The dependent environmental vulnerabilities include social and physical isolation from their previous support
systems due to frequent moves and deployments. The transactional relationship between these vulnerabilities and negative events results in personal stress. It is in this state of stress that depression emerges.

The CVT Stress Theory of Depression will be utilized to guide the project by explaining major concepts of the theory, and the connection between negative life events and risks for development of PPD. The design of the project offers supplemental social support from the healthcare team for these new military mothers during the postpartum period through effective, frequent screening. Increased provider support will decrease mother’s feelings of isolation and improve coping during the first postpartum year.

**Literature Review**

**Methodology**

The keywords used in this search included: postpartum depression, military PPD, PPD screening, PPD screening in pediatric setting, PPD screening in primary care setting, pediatrician’s attitude toward PPD screening, screening tools for PPD, and EPDS. The databases searched included: ScienceDirect, MedLine, CINHAL with full text, military and government collection, SocINDEX with full text, and PsychARTICLES. The inclusion criteria used included: articles less than 10 years old, full text articles, and English written.

**Evidence**

The literature to be reviewed is looking at the feasibility and need for PPD screening in pediatric outpatient settings. There is good evidence to support that the Edinburgh Postnatal Depression Scale (EPDS) is a reliable, valid and appropriate screening tool to be used in the proposed project setting. The findings from the review of literature will be presented
systematically in order of reliability, starting with an expert opinion and concluding with a systematic review. (see Table 1)

In a review article, Sriraman (2012) provided an expert opinion indicating agreement that PPD is a serious concern for pediatricians and screening is the responsibility of these providers. The author claims that pediatricians often contend that they do not have the confidence or the training to conduct effective PPD screening. Pediatric providers can build their confidence and improve patient outcomes by refreshing their knowledge about PPD and establish a working relationship with a mental health provider, in order to systematically refer mothers who score positive on the screening assessment. The use of the EPDS in the pediatric setting is a well-studied and reliable tool. The EPDS is also cross-culturally valid and available in many languages. This article is beneficial to the proposed project since it presents evidence that some pediatric providers are behind the notion of PPD screening in their practices.

Freeman et al. (2005) conducted a pilot study on the feasibility of PPD screening in the pediatric setting. The researchers administered the EPDS tool at the eight-week well-child appointment at an academic affiliated pediatric clinic. Data collection took place at two different three-month time periods in 2002 and 2003. The study included postpartum women (n =96) aged (24.7 yrs, SD 6.1), with infants (n =97; one set of twins) aged (66.2 days, range 30-103 days). The researchers used all of the EPDS forms (n =88) that were complete. The investigators revealed in this study an incidence of possible PPD, score of 9 or greater, was 25% and probable PPD, score of 12 or greater, was 15%. The researchers demonstrated that it is feasible to conduct screening in the pediatric setting (55% participation rate) and that the screening was relatively well accepted by the participants. The study’s limitations include a disproportionate representation of Hispanic participants (n = 53%). In addition, the study was conducted both
during summer and winter months, this potentially confounded their finding since they did not control for seasonal variations in depression and PPD. The researchers also altered demographic data questions of the EPDS for clarification but did not present data regarding the instrument validity with the modification. (III-B)

Liberto (2012) conducted an integrated review of qualitative and quantitative literature from 1995-2009 (n =35). The purpose of the review was to analyze PPD and postpartum mother’s help-seeking behaviors at pediatric appointments, and to identify gaps in the literature. Postpartum women generally do not seek help for depression, and untreated depression leads to adverse effects for mothers and babies, such as poor bonding and parenting, and it alters child development. Although screening in a primary care setting is feasible and reliable, only 42% of family nurse practitioners actually practice some form of screening. Most nurse practitioners stated that they follow clinic practice guidelines (CPGs) and currently there are not any specific guidelines for PPD. One limitation of the review was the inconsistency of cut-off scores for the EPDS limiting statistical analysis across the studies. (III-A)

A systematic review, conducted by Gibson, McKenzie-McHarg, Shakespeare, Price and Gray (2009), of validation studies for use of the EPDS to screen for PPD and Antepartum Depression (APD) from 1987-2008. Careful attention was taken to select studies that met specific inclusion and exclusion criteria and not to duplicate any studies. Thirty-seven studies were accepted and evaluated. The researchers found that with a cutoff score of 9/10 the EPDS had a sensitivity of 59-100%, specificity of 44-97%, and a cutoff score of 12/13 had a sensitivity of 34-100%, specificity 49-100%. The positive predictive value for major depression was 9-64% and combined depression was 23-93%. The negative predictive values for both major and combined depression were 82-100%. At 12/13, the positive predictive values were: major
depression 17-100%, combined depression 30-100%. The negative predictive values were: major depression 47-100%, combined depression 84-100%. The studies cited had a quality (Sackett et al. scale, 2004) grade A (32%), grade B (65%), and one study had insufficient data. The heterogeneous settings of the studies made it impossible for statistical comparison, thus limiting this synthesis from being a meta-analysis.

In summary, PPD continues to occur frequently with an incidence between 10-15%. It affects the mother/baby dyad, and untreated PPD may affect infants’ wellbeing, such as poor bonding and developmental issues. However, screening in the pediatric setting is feasible and needed. The recommended scores for a positive EPDS screening range from 9-12, with 10 or greater as the most common identifier. Although the EPDS is a reliable and appropriate tool for the pediatric setting, universal screening in the pediatric setting appears to be difficult. Only 42% of NPs practice PPD screening, and pediatricians often lack confidence and adequate training to effectively screen for PPD (Liberto, 2012). Yet with clear policies, refresher training, and a supportive referral and resource system, practice can be modified to embrace routine PPD screening.

Methods

Design and Setting

The proposed scholarly project was implemented as a quality improvement (QI) project in a large military pediatric clinic that provides primary care to children from birth to 16 years of age in the Commonwealth of Virginia. This project examined the clinic’s current postpartum depression screening practice to determine provider compliance and recommend a performance-improvement plan. This project sought to answer the proposed inquiry question “Does postpartum depression education and an established referral protocol increase PPD
screening compliance rates in the military pediatric primary care setting?" (see Appendix A)

**Samples**

The project included examination of two samples. The first convenience sample will consist of data collected from two chart audits. PPD screening compliance rates will be evaluated by evidence of EPDS score documentation during two-week well baby appointments (see Appendix A). Data collected on two dates, pre-educational intervention from August 3 to August 17, 2015 (n= 40-60) and post-educational intervention from October 5 to October 16, 2015 (n= 40-60). There were not any exclusion criteria. This sample will establish the compliance data needed to develop the QI plan. The second sample will be drawn from a population of clinic providers (physicians and nurse practitioners) (N=9). It is estimated that the sample size will be an n = 5 based on 60% voluntary response rate. The data obtained from this sample would be used to identify provider demographics, as well as barriers and facilitators needed for QI plan staff-development.

**Procedures**

**Phase I.** The first phase (completed March 2015) involved a review of the current PPD screening procedure. The current procedure calls for administrating the EPDS screening tool to all mothers during their infant’s well-baby visit at two-weeks. The steps of the PPD screening are as follows:

- Mothers given the EPDS form by the technician during check in for the infants visit. Mothers are allowed to complete it privately.
- The technician collects the completed tools, scores them and charts the scores in the infant’s record.
- The physician or nurse practitioner reviews the mother’s EPDS score and provides
appropriate interventions if indicated by a score of 10 or greater, a 10 on question #10, or if the mothers are tearful during the visit (counseling during the current visit, referral to additional counseling through mental/family health, or escorting the mother to the mental/family health clinic or ER for a same day evaluation). Currently the process for referral is based on provider preference and is not standardized.

**Phase II.** A chart audit was conducted on infant’s two-week check-ups from August 3-14 and October 5-16, 2015. In early September and mid-October, the DNP student will begin an audit of the infant’s records for the clinic’s current compliance data (see Appendix B). No patient identifiers will be included in the audit. Following the data collection, the DNP student reviewed and analyzed the initial set of data by September 15, 2015 and the second set data by October 30, 2015. Upon completion of the data analysis, the DNP student will submit them to an ad hoc working group (WG) consisting of the DNP student, a pediatric provider, a New Parent Support Program nurse, and a mental health provider. The membership of the WG will be solicited at the September staff meeting and will be voluntary. Under the direction of the DNP student, the WG will evaluate the data, develop recommendations for improvement in processes and follow-up procedures, if needed, and present findings at the monthly staff meeting on November 20, 2015.

During the month of September, a provider-questionnaire developed by the DNP student will be administered to assess and identify their knowledge, attitudes and beliefs regarding PPD in this setting (see Appendix C). The DNP student will email the questionnaire to staff via SurveyMonkey and analyze the responses looking for common themes and patterns to evaluate the impact of providers’ beliefs, attitudes, and behaviors related to PPD screening upon compliance with the current PPD policy. The WG will evaluate the report to assist in the
development of a brief Lunch and Learn presentation that will be provided to improve staff buy-in for the project, as well as inform on PPD risk-factors, incidence, and both mother and baby negative outcomes. The questionnaire is essential in further identifying barriers and facilitators of the clinic staff to develop a QI plan.

As the project’s intervention, the DNP student will offer two educational sessions to all clinic providers. Each session will include evidence-based information regarding PPD screening, PPD rates in the military population, and referral options for positive screenings. The sessions will be conducted twice in the month of September as a Lunch and Learn.

**Phase III.** The final phase of the project will consist of policy sustainability, data dissemination and publication. The DNP student will work with the clinic nurse manager to develop a sustainability plan to ensure ongoing policy evaluation. As a result, a sustainability outcome will be an increase in screening compliance rates by 25% at the end of the first quarter. In order to disseminate the knowledge learned from this quality improvement project, the DNP student will conduct a podium presentation at each of the facility’s clinics and In-patient units that interact with postpartum mothers and a monthly Pro-staff meeting. A podium or poster presentation will also be presented at the yearly Military CNM Symposium. The work of this project is intended for publication in an appropriate healthcare journal.

**Data collection and analysis**

Demographic and current practice compliance data will be collected from the record audit (see Appendix B). Analysis will be performed using Microsoft Excel for Mac 2011. Descriptive statistics will be calculated for the provider’s demographics and percentages will be calculated for the audit results. Comparison data from the pre- and post-chart audit will be analyzed for statistical difference using Chi Square. The Provider Questionnaire will be qualitatively analyzed
for attitudes and beliefs (see Appendix C). Bar graphs will be created for representation of all data.

**Measures to protect human subjects**

The University of Maryland IRB Board granted a Non Human Subject Research determination on April 2015.

**Results**

An initial compliance chart audit was performed on the forty-two charts that fell within the two-week period of August 3-15, 2015. Of the 42 charts reviewed, 39 (93%) indicated a complete PPD screening was performed. There were four (10%) with a positive screening score of 10 or greater (indicating possible PPD), and one out of those four (25%) received a mental health referral that day. The second compliance chart audit included thirty-three charts that fell within the two-week period of October 5-16, 2015. Of the 33 charts reviewed, 31 (94%) indicated performance of a complete PPD screening. Positive screenings were indicated in two of the 31 audits (6%) and one (50%) of those had documented referrals to a mental health provider.

The provider questionnaire provided demographic information on six of the nine (66%) providers in the Pediatric Clinic. This information was collected to allow the reader to compare the provider demographics of the project to the provider demographics in the literature review articles. The demographic data revealed that two (33%) were male and four (66%) were female, age ranged from: 21-29 years – one (17%) and 30-39 years – five (83%), years of experience: 2 years- five (83%) and 6 years- one (17%), and lastly Active Duty- five (83%) and Civilian – one (17%).

The questionnaire also asked a variety of questions regarding each provider’s attitudes
and beliefs toward screening for PPD in their clinic. A majority, 83%, of the providers indicated that PPD screening is good or important in the pediatric setting. All of the providers who participated in the questionnaire responded that they were comfortable with referring a mother with a positive screening, despite only half having had minimal training on PPD screening in residency, and none replied that they were comfortable with treating for PPD. (See Table 2)

Sustainability options recommended by the working group consisted of: adding satellite clinic providers to list for future training, discussing programs offered by NPSP and behavioral health with patients on a regular basis and not just when a problem is suspected, and utilizing the behavior health clinic regularly when any suspicion of depression is identified. In addition, the clinic nurse manager and flight commander have committed to conducting twice yearly chart audits, similar to the ones done in this project, to confirm that screening rates remain high.

Discussion

Since PPD rates for military mothers are double that of their civilian counterparts, health care providers of all mothers and babies must take an active role in PPD screening (Rychnovsky & Beck, 2006). This project set out to investigate whether providing PPD screening information to pediatric providers would impact screening rates. The results of this project do not show a significant increase in screening rates, although they do show that screening is feasible and accepted in this type of setting. It is also worth mentioning that just six months prior to this project (and prior to the new PPD screening policy) there was a 0% screening rate.

Following a review of the literature regarding PPD screening rates among pediatric providers, one might expect to find a considerably low rate of PPD screening in a pediatric setting (Sriraman, 2012). However, this is not the case with the project clinic. The pre-intervention screening rate is high at 93% and the post-intervention rate essentially the same at
94%. The unexpectedly high rate of screening may be a result of the fact that the clinic is in a military facility and once the hospital has set a policy, the individual providers must do as instructed, rather than practicing as each wishes.

A couple of the responses to the provider questionnaire are also a bit surprising. Unlike the literature indicates, a majority of the providers in this project indicated that they value PPD screening in the pediatric setting and all of the providers felt comfortable with the screening process. According to Sriraman (2012), most pediatric providers are uncomfortable with screening mothers for PPD and do may fear litigation if their treatment was not sufficient. However, it is not alarming that all of the providers had little to no formal training on how to perform PPD screening and none of the providers indicated that they are comfortable with treating a mother with a positive screening. Sriraman (2012) also discussed that PPD screening nor treatment not a part of the pediatrician’s usual training.

The postpartum depression rate for this project (audit one- 10%, audit two- 6%) is slightly lower than the national average (10-20%) and significantly lower than the 20-40% prevalence rate among military mothers (Rychnovský & Beck, 2006). This low rate is surprising, yet can be explained by the thought that military mothers (both active duty and dependents) tend to feel like they should not complain about feelings of loneliness and isolation, and that this is to be expected when a part of the military (Rychnovský & Beck, 2006).

The results of this project support the feasibility of PPD screening in the pediatric setting and that these results can be inspirational to other pediatric providers who are doubtful that they can successfully conduct screening in their practice (Freeman et al., 2005). In addition, findings indicate that when a protocol is established, there is a significant increase in provider’s adherence to the protocol. One limitation to this project is the fairly small sample size. Future
projects may wish to audit longer periods of time than two weeks. This project also did not take into account the possibility of outside providers seeing the clinic’s patients. As with this project, in times of low staffing, patients were seen at a satellite clinic by providers who did not receive the educational intervention and also did not participate in the provider questionnaire, thus making those visits unusable. Overall, the rate of PPD screening did not change as result of provider education, yet the screening rate is high nonetheless.
References


doi:10.1016/j.pedhc.2007.09.007


doi:10.1111/j.1525-1446.2010.00850.x
Table 1

<table>
<thead>
<tr>
<th>Author, Date</th>
<th>Evidence Type</th>
<th>Sample &amp; Sample Size</th>
<th>Results/ Recommendations</th>
<th>Limitations</th>
</tr>
</thead>
</table>
| Gibson, McKenzie-McHarg, Shakespeare, Price & Gray, 2009 | Systematic review of validation studies on the EPDS from 1987-2008. | 37 studies | **Specificity and Sensitivity:**
  a. 9/10- Sensitivity to detect PPD 59-100%, specificity 44-97%.
  b. 12/13- Sensitivity to detect PPD 34-100%, specificity 49-100%.
**Quality assessment:**
  32% of the studies achieved grade of A. 65% of the studies achieved grade of B. One study had insufficient data available.
**Positive predictive value:**
  a. 9/10- major depression 9-64%, combined depression 23-93%.
  b. 12/13- major depression 17-100%, combined depression 30-100%.
**Negative predictive value:**
  a. 9/10- major and combined depression 82-100%.
  b. 12/13- major depression 47-100%, combined depression 84-100%.
**Positive likelihood ratio:**
  Presence of PPD (combined minor and major)
  a. 9/10- 1.81-88
  b. 12/13- 0- inf.
**Negative likelihood ratio:**
  a. 9/10- 0-0.48
  b. 12/13- 0-1 |
| Liberto, 2012 | Integrated Review of articles concerning PPD and PP women’s | 35 studies | Incidence of PPD- 10-15%.
PP women generally do not seek help for depression.
Untreated PPD leads to adverse effects on mom and baby- poor |

Researchers were not able to answer whether EPDS is the appropriate screening tool for APD and PPD.
Statistical comparison across the heterogeneous settings of the studies was not possible, limiting study from being a meta-analysis.
help-seeking behaviors at pediatric appointments.

and integrated reviews less than 15 years old.

bonding, parenting and child’s development. Early detection and prompt treatment can reduce severity of symptoms.

Literature supports that screening in the pediatric setting is both reliable and feasible.

In a study of family nurse practitioners, 42% practiced in some manner of PPD screening. Most practitioners stated that they follow CPGs and there are no current, specific guidelines for PPD.

Freeman et al., 2005

Pilot study on feasibility of PPD screening at 8-week well visit.

EPDS was administered at two different collection time periods. (T1-March 12-June 19, 2002) (T2- Nov 2, 2002 - Jan 31, 2003)

96 PP women with infants ages 30-103 days (mean = 66.2)

Two month appointment at University Pediatric clinic in Tucson, AZ

Ages 16-40, Mean=24.7 (6.1)

Male infants (N=48), female infants (N=45), one set of female twins, and one set of male-female twins.

Combined data- EPDS > 9 = 24.7%, EPDS > 12 = 14.6%.

Completed EPDS in entirety-88 participants.

Correlation was predicted that increased smoking correlated with depression severity- not found to be statistically significant (p= 0.07).

Feasibility was found to be possible at the 8-week well appointment (55.2% participation rate). 172 possible participants, 96 volunteered.

Screening was relatively well accepted by participants in this setting.

Universal screening in pediatric setting appears to be difficult.

No information was collected regarding why some patients refused to participate.

Population was over-represented by Hispanic participants and may not be generalizable to general population.

Inconsistencies found in data where timing of screening is concerned.

Unable to determine if season may have affected mood.

Slightly higher rates at T1 (31.5, 14.3) than T2 (18.5, 8.6).

Researchers made changes to the questionnaire in order to clarify some questions. This may have skewed the data.

Sriraman, 2012

Individua l expert opinion

NA

PPD is a pediatric concern since mother’s emotional state affects baby’s well being as well.

Only know of author’s current employment, no other information provided.
Due to frequency and longevity of interactions between mothers and pediatricians, screening should be done at well appointments.

Endorses EPDS as a well studied, reliable tool Cross culturally valid and available in many languages.

Discusses pediatrician lack training and confidence in PPD screening.

Discussed how pediatricians can improve overall screening process by establishing a referral/resource network for women who screen positive.

<table>
<thead>
<tr>
<th>Study</th>
<th>Article</th>
<th>Study design</th>
<th>Sample size</th>
<th>Barriers</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>5</td>
<td>Agapidak et al. (2014)</td>
<td>Qualitative study</td>
<td>26 Pediatricians and health visitors (73% female, 46% 5-10 yrs. of practice)</td>
<td>Concern that mother’s would exhibit a fear of stigmatization with reporting Lack of skill for management of depression Hesitation to start a conversation with moms Fragmented referral system</td>
<td>The responses may have been influenced by a face-to-face interview Results may not be generalizable to other countries or areas.</td>
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<tr>
<td>6</td>
<td>Byatt, Biebel, Friedman, Debordes-Jackson, Ziedonis</td>
<td>Preliminary Study</td>
<td>27 women (3-36 months PP) Who self reported anxiety, depression, or Barriers: Concerns about reporting symptoms due to stigma and fear of losing parental rights. Ambivalence about pediatrician screening. Many moms feel that Broad inclusion criteria without limiting to depression. Small sample</td>
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seeking help for PPD in Pediatric setting
other emotional complications in pregnancy or PP.
the pediatrician should worry about the baby and not the mother.
Mothers perceived pediatricians as lacking training in addressing depression

**Facilitators:**
Addressing both needs of mom and baby at one time.
Pediatric setting was endorsed by many participants.

**Recommendations:**
Therapeutic, de-stigmatizing approach to screening.
Discussion of risk factors and not just a checklist.
Pediatricians with empathetic and validating attitudes encouraged reporting by mothers.

| 7 | DeRosa & Logsdon (2006) | Meta-synthesis 
Comparison of depression screening tools for PP adolescents | No tool is perfect
EPDS is most used and validated tool for PPD.
CES-D is good for adolescent depression but not studied in PPD.
HDRS and BDI do not have psychometric properties acceptable for PPD and adolescents. |
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<tr>
<td>8</td>
<td>Wiley, Burke, Gill, Law (2004)</td>
<td>Assess Pediatricians knowledge and views about PPD and screening</td>
<td>1200 sampled, 389 (32%) responded, 311- study sample 52% male Mean age- 47 (29-78) Time in 49%- reported limited PPD training (50%- from Journals, 17%- from residency training, 13%- CME conferences) 51%- underestimated PPD incidence (5%) 94%- PPD is a validated diagnosis</td>
</tr>
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</table>

DeRosa & Logsdon (2006) 

Small sample size
Most of the pediatricians who responded were in private practice and may not be generalizable to other practices.

Majority, 33%, of the
|   | Tam, Newton, Dern, Parry (2002) | Practice- 16 yrs. (1-50) | 96% - providers recognize that mothers may not recognize they are depressed  
11% - would not seek treatment for depression themselves  
31% - expressed confidence to recognize PPD  
25% - believe mothers with PPD could be willing to discuss with them  
7% - familiar with PPD tools  
58% - states that they would use a brief tool  
51% - would be feasible to screen in their practice  
72% - currently screen by asking “How are you doing?”  
27% - conduct no screening at all  
34% - plan to incorporate PPD screening in the next 6-12 months  
60% - would consider PPD screening in the distant future  
Barriers: 69% identified barriers such as:  
57% - lack of office resources  
43% - lack of referral resources  
5% - lack of effective treatment options  
10% - felt screening is not appropriate to the job | Respondents lived in the South, may not be generalizable to other regions.  
Tam, Newton, Dern, Parry (2002) | 9 | Prospecti ve study  
Screen women for PPD at each well-baby appointment for the first year.  
Women taking infants to well appointments in the first year of life.  
160 participants recruited and packets sent.  
7 women volunteered.  
5 out of 7 participants scored an elevated screening at some point in the study.  
None of the women agreed to participate in the second phase.  
All accepted a referral.  
Recommendations:  
1. Change the way women and pediatricians see PPD through education and normalization.  
Small sample size  
Potential bias among the participants who opted in, if they had a history of PPD or felt they may have PPD  
Resistance from pediatricians to allow screening for depression in their practices  
Women reluctant to participate for fear of stigma |
| Exclusion criteria: medical illness (could cause depression), and other mental illness. | 2. Screening should be done by providers that the mother already knows.  
3. Offer a wide variety of referral options. | or negative effects of being labeled with a mental illness.  
Residents verbalized fear speaking to mothers about depression and even if it was positive they would not discuss with moms.  
Discussed lack of time and standardized referral system.  
Use of residents may be a negative factor and contributed to feelings of discomfort in screening. |
|---|---|---|
| Mishina Hayashino Takayama Kasahara Fukuhara (2010) | Prospective Study  
Assessed whether the accuracy of pediatrician recognition of maternal depression during the one-month well-child visit could be improved by an educational intervention using the two-item screening tool | 267 mothers at the one month well baby appointment.  
Pre- 15.6% PPD  
Post- 15% PPD  
Pediatrician could identify PPD  
Pre- 3.2%  
Post- 5.3%  
Not significant  
41 mothers had elevated EPDS of 9 or greater.  
27% (11) accepted a referral  
3 of these 11 were diagnosed with major depression.  
Residents did not identify mothers with depressive symptoms  
Pre- 8%  
Post- 12%  
The 2-question instrument did not improve accuracy of resident’s recognition of depression. |

Note. APD = antepartum depression; CPG = clinical practice guideline; EPDS = Edinburgh postnatal depression scale; PP = postpartum; PPD = post-partum depression; RCT = randomized control trial, HDRS = Hamilton Depression Rating Scale, CES-D = Center for Epidemiologic Studies depression scale, BDI = Beck Depression Inventory, CME = Continuing medical education. Adapted from Newhouse R, Dearholt S, Poe S, Pugh LC, White K. The Johns Hopkins Nursing Evidence-based Practice Rating Scale. 2005. Baltimore, MD, The Johns Hopkins Hospital; Johns Hopkins University School of Nursing.
Table 2- Provider Questionnaire Responses

<table>
<thead>
<tr>
<th>Thoughts about PPD screening in a pediatric setting</th>
<th>Good, important, effective (83%)</th>
<th>Currently being done (17%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What training did you receive on PPD screening, if any?</td>
<td>Minimal in residency/Grad school (50%)</td>
<td>None (50%)</td>
</tr>
<tr>
<td>Do you feel comfortable screening for PPD?</td>
<td>Yes (100%)</td>
<td>No (0%)</td>
</tr>
<tr>
<td>Is the EPDS an appropriate tool in this clinic?</td>
<td>Yes (100%)</td>
<td>No (100%)</td>
</tr>
<tr>
<td>Are you comfortable treating for PPD?</td>
<td>Yes (0%)</td>
<td>No (33%)</td>
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<tr>
<td>Are you comfortable with referring a mother with possible PPD?</td>
<td>Yes (100%)</td>
<td>No (0%)</td>
</tr>
<tr>
<td>What actions would you take if a mother refused care?</td>
<td>Ask about NPSP (33%)</td>
<td>Contract for safety (17%)</td>
</tr>
</tbody>
</table>

Appendix A
# Edinburgh Postnatal Depression Scale (EPDS)

**Name:** ___________________________  **Address:** ___________________________

**Your Date of Birth:** ___________________________  **Phone:** ___________________________

**Baby’s Date of Birth:** ___________________________  **Phone:** ___________________________

---

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

Here is an example, already completed.

I have felt happy:
- Yes, all the time
- Yes, most of the time  *This would mean: “I have felt happy most of the time” during the past week.
- No, not very often
- No, not at all

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   - As much as I always could
   - Not quite as much now
   - Definitely not as much now
   - Not at all

2. I have looked forward with enjoyment to things
   - As much as I ever did
   - Rather less than I used to
   - Definitely less than I used to
   - Hardly at all

*3. I have blamed myself unnecessarily when things went wrong
   - Yes, most of the time
   - Yes, some of the time
   - Not very often
   - No, never

4. I have been anxious or worried for no good reason
   - No, not at all
   - Hardly ever
   - Yes, sometimes
   - Yes, very often

*5. I have felt scared or panicky for no very good reason
   - Yes, quite a lot
   - Yes, sometimes
   - No, not much
   - No, not at all

6. Things have been getting on top of me
   - Yes, most of the time I haven’t been able to cope at all
   - Yes, sometimes I haven’t been coping as well as usual
   - No, most of the time I have coped quite well
   - No, I have been coping as well as ever

*7. I have been so unhappy that I have had difficulty sleeping
   - Yes, most of the time
   - Yes, sometimes
   - Not very often
   - No, not at all

8. I have felt sad or miserable
   - Yes, most of the time
   - Yes, quite often
   - Not very often
   - No, not at all

9. I have been so unhappy that I have been crying
   - Yes, most of the time
   - Yes, quite often
   - Only occasionally
   - No, never

*10. The thought of harming myself has occurred to me
    - Yes, quite often
    - Sometimes
    - Hardly ever
    - Never

---


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Appendix B

Chart Audit Checklist - Pediatric Provider’s Demographics

<table>
<thead>
<tr>
<th>Provider’s age</th>
<th>Years of practice</th>
<th>Male/Female</th>
<th>AD/Civilian</th>
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</table>
Chart Audit Checklist- Compliance Variables  (No = 0, Yes = 1)

<table>
<thead>
<tr>
<th>EPDS completed (Y/N)</th>
<th>EPDS score</th>
<th>Counseling offered today (Y/N)</th>
<th>Given handout or resource information (Y/N)</th>
<th>Referral placed (Y/N) Where?</th>
<th>Call made if EPDS was not completed (Y/N)</th>
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</table>
Appendix C

Provider Questionnaire

1. What are your thoughts about PPD screening in a pediatric clinic?

2. What training did you receive for PPD screening?

3. Do you feel comfortable screening women for PPD in this clinic? Why or why not?

4. Do you think the Edinburgh Postnatal Depression Scale (EPDS) is an appropriate tool for screening PPD in this clinic? Why or why not?

5. Do you feel comfortable treating or referring mothers who score positive on the EPDS? Why or why not?

6. What would you do if the mother did not want counseling, referral or treatment?

7. Please add any additional thoughts about the screening process:
Appendix D

Project Timeline

**Phase I**- March 2015- Review of clinic’s current PPD screening practice

    May-
    1. Present scholarly project proposal to committee- June 22
    2. Submit IRB query- July 15

**Phase II**-

August- Data collection chart audit- Part I

September-
    1. Data analysis chart review- Part I
    2. Data collection- Staff Questionnaire
    3. Establish Clinic Work Group

October- Two brief provider educational Lunch and Learns-
    1. Data analysis of staff questionnaire
    2. Data collection and analysis of chart review- Part II

November- WG meeting to discuss data analysis and policy improvements

November to December- Data analysis and new screening program presented at monthly staff meeting

**Phase III**-

January – June 2016
    1. Podium presentations to facility clinics and In-patient units
    2. Podium or poster presentation at Military CNM Symposium
    3. Manuscript submission
Provider Education: Power Point Presentation

**Postpartum Depression Screening in the Pediatric Setting**

- Lisa Cousins, CSN, MSN, DNP student
- School of Nursing Practice Scholarly Project
- University of Maryland - Baltimore

**PPD Facts**

- A non-psychiatric depressive episode that can start in pregnancy and can extend through the first year postpartum. (Beck, 1990)
- 10-20% prevalence rate in civilian population. Only about half are diagnosed. (Sriraman, 2012)
- Rates are double in the military population. May be due to lack of social support system. (Ruchshoy & Beck, 2006)
  - Exact rate at Langley is not known. Data is not easily obtained
- Early detection is key. Delay in detection can lead to more severe symptoms and longer duration. (Wood, Middelton, & Leonard, 2012)

**Negative Effects on Families**

- Interference on the mother's cognitive processing and information interpretation
- Mother's affective expression is decreased
- Effects her ability to interact positively with her infant.
- Poor bonding can lead to altered child development
- Causes negative effects for mother, infant and generally the entire family.

**Opportunity for Intervention**

- Postpartum mothers are seen 1-2 times by the OB provider after delivery.
- Interact with pediatric providers 5-7 times in the first year of the infant’s life.
- Screening in the pediatric setting is feasible and well received by mothers. (Freeman et al, 2005)
- Mothers with depression symptoms do not tend to self-report to healthcare providers. (Laberto, 2012)
  - If socially isolated, may fall through the cracks

**Edinburgh Postnatal Depression Scale (EPDS)**

- Reliable, valid and most frequently used for PPD screening. (Gibson et al, 2009)
- Developed specifically for postpartum – purposefully refrains from questions on fatigue, loss of appetite and sleep disturbances that are associated with most new mothers.
- Free and easily administered
- Score of 10 or greater is considered a positive score (OR a positive response on question #10)

**Pediatric Screening Data**

- Only about 50% of civilian pediatric practices currently screen for PPD. Most ask a 1-2 question screening. (ex. How are you feeling? Do you have any concerns about yourself or the infant?) (Liberto, 2012)
- Pediatric providers report that they lack the training and confidence in PPD screening and treatment. (Sriraman, 2012)
- Uncomfortable with lack of established referral system to a mental health provider for the mothers. (Sriraman, 2012)

**Project Objectives**

- Evaluating current pediatric clinic screening policy
- Chart audit for 2-week well appointments pre- and post- educational Lunch & Learn session (intervention)
- Working group to discuss screening policy and attention in referral process (Hopes to streamline the workflow processes)
- Provider survey to gain attitudes and beliefs towards PPD screening
- Data analysis will be presented to staff and leadership

**Questions?**

- Volunteer needed for working group participation.

- Thank you for your time and attention!